

CLAIMS

1. A sound-absorbing material, wherein a non-woven fabric with a mass per unit area of 150 to 800 g/m² and a bulk density of 0.01 to 0.2 g/cm³ and a surface material with an air permeability of not more than 50 cc/cm²/sec measured according to JIS L-1096 are layered.

2. The sound-absorbing material according to claim 1, wherein the non-woven fabric is a fabric in which a thermoplastic staple fiber and a heat resistant staple fiber with an LOI value of not less than 25 are intertwisted.

3. The sound-absorbing material according to claim 2, wherein the weight ratio of the thermoplastic staple fiber and the heat resistant staple fiber is in a range of 95:5 to 55:45.

4. The sound-absorbing material according to claim 2, wherein the weight ratio of the thermoplastic staple fiber and the heat resistant staple fiber is in a range of 85:15 to 55:45.

5. The sound-absorbing material according to any one of claims 2 to 4, wherein the thermoplastic staple fiber is at least one kind of staple fibers selected from the group consisting of a polyester fiber, a polypropylene fiber and a nylon fiber.

6. The sound-absorbing material according to any one of claims 2 to 5, wherein the heat resistant staple fiber is at least one kind of staple fibers selected from the group consisting

of an aramid fiber, a polyphenylene sulfide fiber, a
polybenzoxazole fiber, a polybenzothiazole fiber, a
polybenzimidazole fiber, a polyether ether ketone fiber, a
polyarylate fiber, a polyimide fiber, a fluoride fiber and a
5 flame resistant fiber.

7. The sound-absorbing material according to any one of
claims 2 to 4, wherein the thermoplastic staple fiber is a
polyester staple fiber and the heat resistant staple fiber is
10 an aramid staple fiber.

8. The sound-absorbing material according to any one of
claims 1 to 7, wherein the non-woven fabric is produced by needle
punch method or water jet method.
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9. The sound-absorbing material according to any one of
claims 1 to 8, wherein the surface material is a spun bonded
non-woven fabric or a wet-laid non-woven staple fabric.

20 10. The sound-absorbing material according to claim 9,
wherein the wet-laid non-woven fabric is comprised of a heat
resistant staple fiber with an LOI value of not less than 25.

11. The sound-absorbing material according to claim 9,
25 wherein the wet-laid non-woven fabric is comprised of a heat
resistant staple fiber with an LOI value of not less than 25
and a silicate mineral.

12. The sound-absorbing material according to claim 11,

wherein the silicate mineral is mica.

13. The sound-absorbing material according to claim 10 or 11, wherein the heat resistant staple fiber is an aramid staple
5 fiber.

14. The sound-absorbing material according to any one of claims 9 to 13, wherein the surface material has a dust generation number of not more than 500 particles/0.1 ft³ of particles with
10 a diameter of not less than 0.3 μm measured by the tumbling method according to JIS B-9923 6.2(1.2).

15. The sound-absorbing material according to any one of claims 1 to 14, wherein the non-woven fabric and the surface
15 material are comprised of the same kind of synthetic fiber.

16. The sound-absorbing material according to any one of claims 1 to 15, wherein the non-woven fabric and the surface material are layered by bonding, and the number of the bonding
20 points of the non-woven fabric and the surface material is not more than 30 points/cm², and the ratio of the total surface area of the bonding points to the total surface area of the bonding points and the non-bonding points is not more than 30%.

25 17. The sound-absorbing material according to any one of claims 1 to 16, wherein the non-woven fabric is in the shape of a polyhedron and the surface material is layered on two or more faces of the polyhedron.

18. The sound-absorbing material according to claim 17, wherein the non-woven fabric is in the shape of a hexahedron and the surface material is layered on both side faces of the hexahedron.

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19. The sound-absorbing material according to any one of claims 1 to 16, wherein the non-woven fabric is in the shape of a column or a cylinder and the surface material is layered on the curved face of the column or the cylinder.

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20. The sound-absorbing material according to any one of claims 1 to 16 having a multilayer structure comprising at least one or more layers of each of the non-woven fabric and the surface layer, wherein the both layers are united.

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21. The sound-absorbing material according to any one of claims 1 to 19, which is used as a vehicle interior material or a vehicle exterior material.

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22. The sound-absorbing material according to any one of claims 1 to 19, which is used as a sound-absorbing material for a lawn mower.

23. The sound-absorbing material according to any one of claims 1 to 19, which is used as a sound-absorbing material for a breaker.

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